COURSE DESCRIPTION:
This is a survey course introducing chemistry to allied health students. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, environmental/consumer chemistry. (3 Lec., 3 Lab.)

COURSE PREREQUISITES:
The following must be met: (1) Developmental Mathematics 0090 or higher or the equivalent AND (2) Developmental Reading 0093 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) Reading standard.

COURSE COREQUISITE:
None.

REQUIRED TEXT(S):
LECTURE
CHEM 1405, 1406 and 1407 need to use the following e-text from this website: http://chemwiki.ucdavis.edu/Textbook_Maps/General_Chemistry_Textbook_Maps/Map%3A_Ball_et_al._%22The_Basics_of_GOB_Chemistry%22_Ball_et_al._The_Basics_of_GOB_Chemistry"

LABORATORY
CAROLINA DISTANCE LEARNING CHEMISTRY SCIENCE KIT


STATE REQUIREMENTS:
COURSE OBJECTIVES:
The objective of the study of a life and physical sciences component of the core curriculum is the focus on describing, explaining, and predicting natural phenomena using scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

Required Core Objectives for Chemistry are as follows:

- Critical Thinking
- Communication
- Empirical and Quantitative Skills
- Teamwork

For 2014-2015, Chemistry will evaluate and assess the following Core Objectives:

- Critical Thinking
- Communication
- Empirical and Quantitative Skills
The following science courses include the above core objectives: Biology 1406, 1407, 1408, 1409, 1411, 2401, 2402, 2406, 2416, 2420, 2421; Chemistry 1405, 1406, 1407, 1411, 1412, 2423, 2425 Geology 1401, 1402, 1403, 1404, 1405, 1445, 1447; Physics 1401, 1402, 1403, 1404, 1405, 1407, 1415, 1417, 2425, and 2426.

STUDENT LEARNING OUTCOME

STUDENT LEARNING OUTCOMES FOR DISCIPLINE OF CHEMISTRY

Upon successful completion of this course, students will learn in lecture to:

Student in lecture will be able to:

1) Convert units and measurements and calculate calories and joules.
2) Classify matter, compounds, and chemical reactions, superficially.
3) Use the gas laws in the remedial sense and basics of the Kinetic Molecular Theory to solve problems.
4) Evaluate nuclear radiation.
5) Demonstrate their ability to represent chemistry artistically, either through presentation, poster or art form.
6) Identify functional group and nomenclature of organic substances.
7) Simplistic function of biochemical processes.
8) Understanding metabolic pathways.
9) Write and balance equations .
10) Write chemical equations.
11) Classify organic compounds by structure, molecular orbitals, hybridization, resonance, polarity, chirality, conformation, and functionality.
12) Identify organic molecules using appropriate organic nomenclature.
13) Describe some organic reactions.
14) Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
15) Predict the outcome of aliphatic and aromatic reactions, given the conditions and starting materials.
16) Identify carbohydrates, lipids and proteins
17) Understanding biomolecules such as enzymes, DNA and RNA.

Upon successful completion of this course, students will in lab to:

1) Convert units and measurements and calculate calories and joules.
2) Demonstrate safe and proper handling of laboratory equipment and chemical laboratory.
3) Conduct basic laboratory experiments with proper laboratory techniques.
4) Learning skills necessary to make accurate and careful experimental observations.
5) Relate physical observations and measurements to theoretical principles.
6) Identify appropriate sources of information for conducting laboratory experiments involving the major principles of chemistry.

STUDENT LEARNING OUTCOMES FOR AA & AS DEGREE PROGRAM

Student will be able to:

1. Reason logically to solve social, political, economic, scientific, quantitative, or personal problems.
2. Communicate ideas (aurally, orally, and in writing) with clarity, logic, proper grammar, and appropriateness for audience and occasion.
3. Employ reading strategies to demonstrate learning, to analyze information, to formulate judgments, and to make recommendations
4. Apply research skills necessary to retrieve and evaluate information.
5. Demonstrate scientific reasoning to solve problems. (AS Degree only)

COURSE OUTLINE:

Instructor Attendance Policy:

Students are expected to attend all classes. Students have the responsibility to attend class and to consult with the instructor when an absence occurs. If for some reason you must leave class early, you should inform the instructor prior to the start of class of your reason for leaving early.

Students must begin attendance in all classes of enrollment. No exceptions. Financial Aid will not be granted to students who have been certified as not attending, by the certification date. For this lecture course, your physical participation in class, on or before the certification date will allow you to receive credit for FA purposes. For certification dates, check with the division or FAO for further information. Students, who are not certified as beginning class, are responsible for any payments due as a result of non-certification, to include the dropping of courses.

CHEMISTRY 1406 COURSE CONTENT

1. Chemistry, Matter, and Measurement
2. Elements, Atoms, and the Periodic Table
3. Ionic Bonding and Simple Ionic Compounds
4. Covalent Bonding and Simple Molecular Compounds
5. Introduction to Chemical Reactions
6. Quantities in Chemical Reactions
7. Energy and Chemical Processes
8. Solids, Liquids, and Gases
9. Solutions
10. Acids and Bases
11. Nuclear Chemistry
13. Unsaturated and Aromatic Hydrocarbons
15. Organic Acids and Bases and Some of Their Derivatives
16. Carbohydrates
17. Lipids
18. Amino Acids, Proteins, and Enzymes
19. Nucleic Acids
20. Energy Metabolism

ASSESSMENT

12/11/15
Exams and Assignments:
The final grade for the course is based on the grade scale shown. There are no exceptions to this grade scale.

The total points are based on the following:

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
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<tbody>
<tr>
<td>48.0</td>
<td>Exams</td>
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<tr>
<td>10.0</td>
<td>Quizzes</td>
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<td>Comprehensive Final Exam</td>
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<td>Pre-lab Quizzes</td>
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<td>Discussions</td>
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**FINAL EXAM**
The final exam will be a standardized test compiled by the American Chemical Society. This test will assess your overall chemistry knowledge of this course. A mastery of 60% or above is acceptable and the paradigm.

**LAB**
All students must score 70% on lab safety exam. If score is less than 70%, student must retake safety exam. No student will be allowed to work in the lab unless 70% mastery is achieved. Labs for Excel graphing will be specially assessed to test your graphing ability. A mastery of 60% or above is acceptable and the paradigm. ALL LABS ARE TO BE SUBMITTED TO CHEM 1411 62430 LABORATORY PORTION.

**LAB FINAL EXAM**
Questions will be specifically assessed to determine your laboratory knowledge, one of which will be on Excel graphing exercise. A mastery of 60% or above is acceptable and the paradigm. You will be expected to know the concepts covered in the lab experiments and various procedures or tests/calculations performed on data collected.

**HOME WORK/ASSIGNMENTS/QUIZZES**
Will be given at the discretion of the instructor, and could be calculated into overall grade.

**GRADING SCALE**

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<thead>
<tr>
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<th>Points</th>
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<tbody>
<tr>
<td>A</td>
<td>100 TO 89.5</td>
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<tr>
<td>B</td>
<td>&lt;89.5 TO 79.5</td>
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<tr>
<td>C</td>
<td>&lt;79.5 TO 64.9</td>
</tr>
<tr>
<td>D</td>
<td>&lt;64.9 TO 59.5</td>
</tr>
<tr>
<td>F</td>
<td>&lt;59.5 TO 0</td>
</tr>
</tbody>
</table>

**INSTITUTIONAL POLICIES**

The withdraw date for this class is January 04, 2016.
Census date is December 22, 2015.

Academic Dishonesty:
Students that caught plagiarizing an assignment will be subject to an "F" in the course and possible expulsion from the college.

Academic honesty is expected, and integrity is valued in the Dallas County Community Colleges. Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Catalog. More information is available at https://www1.dcccd.edu/catalog/ss/code.cfm.

Repeating This Course:
Effective for Fall Semester 2005, the Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. This class may/may not be repeated for the third or subsequent time without paying the additional tuition. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 semester. More information is available at https://www1.dcccd.edu/catalog/ss/code.cfm.

STOP BEFORE YOU DROP
For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code §1.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a "W". Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access:
https://www1.dcccd.edu/coursedrops

Financial Aid:
If you are receiving financial aid grants or loans, you must begin attendance in all classes. Do not drop or stop attending any class without consulting the Financial Aid Office. Changes in your enrollment level and failing grades may require that you repay financial aid funds. For further information, please contact Financial Aid at 214-860-8688, 8834, or 8826.

The Texas Success Initiative (TSI):
The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college-level course work. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student’s basic academic skills in reading, writing, and math. Passing the assessment is a prerequisite for enrollment in many college level classes. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. Additional information is available at https://www1.dcccd.edu/catalog/ss/tempts.cfm.

ADA Statement:

12/11/15
If you are a student with a disability and/or special needs who requires accommodations, please contact the college Disability Services Office. For information regarding the rights and responsibilities of students with disabilities, contact DSO at 972-260-8691 (Voice) or 972-860-3651 (TDD).

**Religious Holidays:**
Absences for observance of a religious holy day are excused. A student whose absence is excused to observe a religious holy day is allowed to take a make-up examination or complete an assignment within a reasonable time after the absence.

**Inclement weather:**
In the event of severe weather conditions, please listen to local radio or television stations for information concerning official closing of Mountain View College facilities. You can also call the information line at 214.860.8680, or check for updates on this web site. Decisions for evening classes will be made by 4:00 pm.  
[http://www.mountainviewcollege.edu/weather.aspx](http://www.mountainviewcollege.edu/weather.aspx)

**Final Course Grade:**
Final grades are available only on eConnect and touchtone telephone at 972-613-1818. You will need your student ID number and use your birth date as your password.  
[http://econnect.dcccd.edu/econnect/st/stmenu.html](http://econnect.dcccd.edu/econnect/st/stmenu.html)

**Disclaimer Reserving Right to Change Syllabus:**
The instructor reserves the right to amend this syllabus as necessary.

**Withdrawal Policy (with drop date):**
If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar’s Office by **January 04, 2016** Last Day to Withdraw. Failure to do so will result in your receiving a performance grade, usually an "F." If you drop a class or withdraw from the college before the official drop/withdrawal deadline, you will receive a "W" (Withdraw) in each class dropped.

For a complete listing of MVC and DCCCD policies, refer to [http://www.tasb.org/policy/pol/private/057501/](http://www.tasb.org/policy/pol/private/057501/). The highlighted policies below provide partial listing off the duties, rights and responsibilities of students enrolled in MVC courses.

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**SCHEDULE**

This is schedule of events and is subject to change.  
Please refer to ecampus.dcccd.edu for all course information.

***Students are expected to read the online text for the assigned chapters prior to class and be ready to discuss materials during class. You are responsible for all of the material in the assigned reading, regardless of whether it is discussed in the power points in class lecture.***

<table>
<thead>
<tr>
<th>DATE</th>
<th>Event Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F DEC 18</strong></td>
<td>Introduction, Lab: Safety Orientation Lab: Safety Quiz</td>
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</tbody>
</table>
| **M DEC 21** | 1: Chemistry, Matter, and Measurement  
2: Elements, Atoms, and the Periodic Table+  
% Quiz 1 |
| **T DEC 22** | 3: Ionic Bonding and Simple Ionic Compounds  
4: Covalent Bonding and Simple Molecular Compounds  
% Quiz 2 |
| **W DEC 23** | EXAM 1 (TIMED) WILL BE MADE AVAILABLE DEC 22-DEC 26.  
5: Introduction to Chemical Reactions  
% Quiz 3 |
| **R DEC 24** | 6: Quantities in Chemical Reactions  
% |
| **F DEC 25** | HOLIDAY |
| **SA DEC 26** | 7: Energy and Chemical Processes  
Quiz 4  
EXAM II (TIMED) WILL BE MADE AVAILABLE DEC 26-DEC 31.  
LAB Chem and Physical Changes  
LAB Balancing Chemical Equations |
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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</thead>
</table>
| M Dec 28 | 8: Solids, Liquids, and Gases  
9: Solutions  
صدق Quiz 5 |
| T Dec 29 | 10: Acids and Bases  
11: Nuclear Chemistry  
صدق Quiz 6 |
| W Dec 30 | 12: Organic Chemistry: Alkanes & Halogenated Hydrocarbons  
13: Unsaturated and Aromatic Hydrocarbons  
صدق Quiz 7  
LAB Bonding Molecular Geometry  
LAB Engineering a Better Air Bag |
| R Dec 31 | 14: Organic Compounds of Oxygen  
15: Organic Acids and Bases and Some of Their Derivatives  
صدق Quiz 8 |
| F Jan 1  | HOILDAY                                                              |
| S Jan 2  | EXAM IV (TIMED) WILL BE MADE AVAILABLE DEC 30-JAN 3                 |
| M Jan 4  | 16: Carbohydrates  
17: Lipids  
صدق Quiz 9  
صدق Quiz 10 |
| T Jan 5  | 18: Amino Acids, Proteins, and Enzymes  
صدق Quiz 10 |
| W Jan 6  | 19: Nucleic Acids  
20: Energy Metabolism  
Quiz 11  
LAB Flame-test  
LAB Chemistry The Fundamentals of Calorimetry |
| R Jan 7  | EXAM V (TIMED) WILL BE MADE AVAILABLE JAN4-JAN 7                   |
| F Jan 8  | COMPREHENSIVE FINAL EXAM                                          |